Cube Camera with Fixed Lens Hardware Manual

D11, D12

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ACTi
Connecting Vision

Table of Contents

Precautions 3

Safety Instructions 5

Introduction 6

List of Models 6
Features and Benefits 7
Package Contents 8
Physical Description 9
Mount Type 10

Installation Procedures 11

Step 1: Mount the Camera 11
1. Mount the Bracket 11
2. Install the Camera 13

Step 2: Connect the Camera 15
Connecting a Single Camera 15
Connecting Multiple Cameras 16

Step 3: Access the Camera and Adjust the Focus 16

Accessing Camera 17

Configure the IP Addresses 17
Using DHCP Server to Assign IP Addresses 17
Using the Default Camera IP Address 19

Access the Camera 21

Precautions

Read these instructions

You should read all the safety and operating instructions before using this product.

Heed all warnings

You must adhere to all the warnings on the product and in the instruction manual. Failure to follow the safety instruction given may directly endanger people, cause damage to the system or to other equipment.

Servicing

Do not attempt to service this video device yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Trademarks

All names used in this manual are probably registered trademarks of respective companies.

Liability

Every reasonable care has been taken during the writing of this manual. Please inform your local office if you find any inaccuracies or omissions. We cannot be held responsible for any typographical or technical errors and reserve the right to make changes to the product and manuals without prior notice.

Federal Communications Commission Statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: Changes or modifications to the equipment that are not expressly approved by the responsible party for compliance could void the user's authority to operate the equipment.

European Community Compliance Statement

This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to European Standard EN 55022 and EN 55024. In a domestic environment, this product may cause radio interference in which cause the user may be required to take adequate measures.

Safety Instructions

Don’t open the housing of the product

Cleaning

Disconnect this video product from the power supply before cleaning.

Attachments

Do not use attachments not recommended by the video product manufacturer as they may cause hazards.

Water and Moisture

Do not use this video product near water, for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool and the like.

Don’t use accessories not recommended by the manufacturer

Only install this device in a dry place protected from weather

Servicing

Do not attempt to service this video product yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.

Damage Requiring service

Disconnect this video product from the power supply immediately and refer servicing to qualified service personnel under the following conditions.

1) When the power-supply cord or plug is damaged
2) If liquid has been spilled, or objects have fallen into the video product.
3) If the video product has been directly exposed to rain or water.
4) If the video product does not operate normally by following the operating Instructions in this manual. Adjust only those controls that are covered by the instruction manual, as an improper adjustment of other controls may result in damage, and will often require extensive work by a qualified technician to restore the video product to its normal operation.

Safety Check

Upon completion of any service or repairs to this video product, ask the service technician to perform safety checks to determine if the video product is in proper operating condition.

Introduction

List of Models

This hardware manual contains the following models:

D11		1MP Cube with Fixed Lens
D12		3MP Cube with Fixed Lens

Features and Benefits

This is a cutting-edge digital video surveillance camera. It can compress and transmit real time images with outstanding image quality through a standard TCP/IP network. This camera is your best choice to build an intelligent IP surveillance system.

H.264 High Profile/MJPEG Multi-Codec Dual Streaming

This device supports 2 compression formats, H.264 High Profile and MJPEG. It brings superior image quality at 30 frames per second up to a resolution of 720p (1280 x 720) pixels and VGA (640 x 480) pixels.

Built-in Hardware Motion Detection

No more external motion sensors are required. You may assign up to 3 video motion detection areas. By tuning the object size and sensitivity, it will reliably detect objects passing though is view. Hardware motion detection also offers better sensitivity and faster response time than software motion detection.

Powerful Bundled Surveillance Software

To extend the capabilities of the IP Camera series, a powerful surveillance program is included in the package for free. Users can easily use an existing PC as a digital video recorder. Scheduled recording and manual recording keep every important video recorded in the local hard disk. Reliable and accurate motion detection with instant warning enables immediate response in every condition. Quick and simple search and playback function lets you easily find the images and video you want.

Software Development Kit Support

This IP Camera can be integrated or controlled by applications from third party software developers. Software developers can save considerable efforts by using our Streaming Library or ActiveX control. Please contact us for details on integration support.

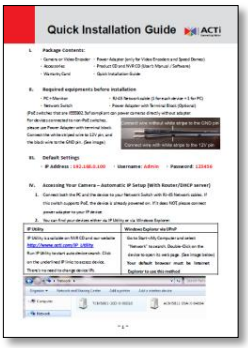
Package Contents

Cube Camera

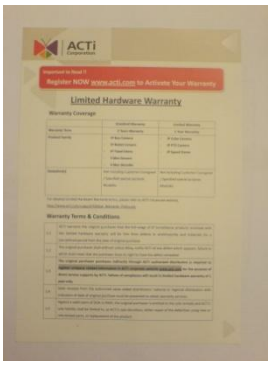
Bracket

Screw kit

QIG



Warranty Card



Physical Description

1 Reset Button
2 Ethernet Port

1) Reset Button

The Reset button is used to reset the camera to its default factory settings, if necessary.

To reset the camera:

Step 1: Press and continue to hold the Reset Button for 5 seconds (with a sharp tipped object, like a pen.) after the unit has successfully completed the boot process.

Step 2: The Ethernet LED light will turn off for about 1~2 seconds and flash on for another second. By this time the reset to default operation is already completed. You may then release the reset button. This length of time fluctuates slightly with the environment. The unit will come back on and stay on after a few more seconds. The unit will start up with factory default settings automatically.

2) Ethernet Port

The IP device connects to the Ethernet via a standard RJ45 connector. Supporting NWAY, this IP device can auto detect the speed of local network segment (10Base-T/100Base-TX Ethernet).

Mount Type

Ceiling Mount

Wall Mount

Installation Procedures

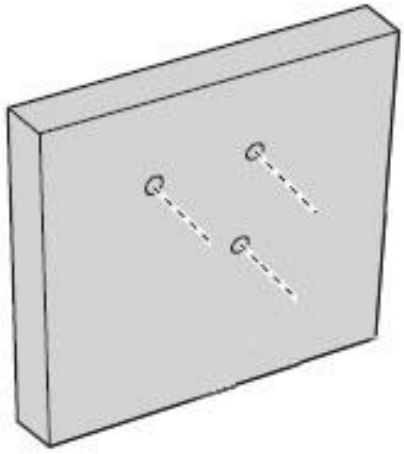
Step 1: Mount the Camera

1. Mount the Bracket

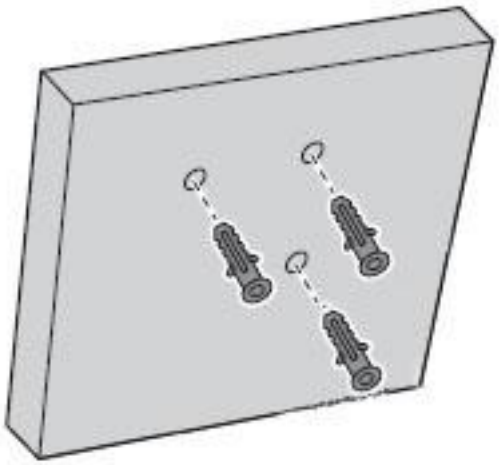
The bracket can be mounted on a concrete or wooden wall or ceiling. Select the location where you want to mount the bracket.

When mounting on a concrete wall or ceiling

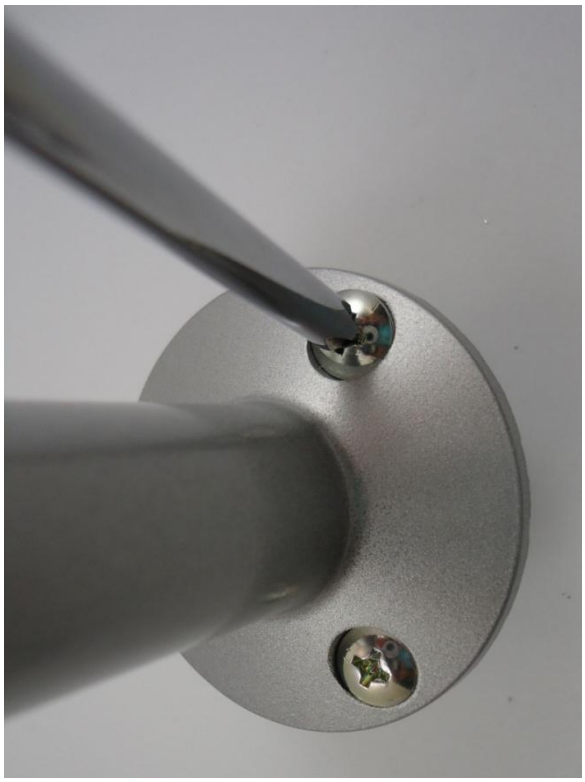
1. Mark the location of the three screw holes on the wall or ceiling and drill the holes.



2. Insert the supplied plastic washer into each hole.

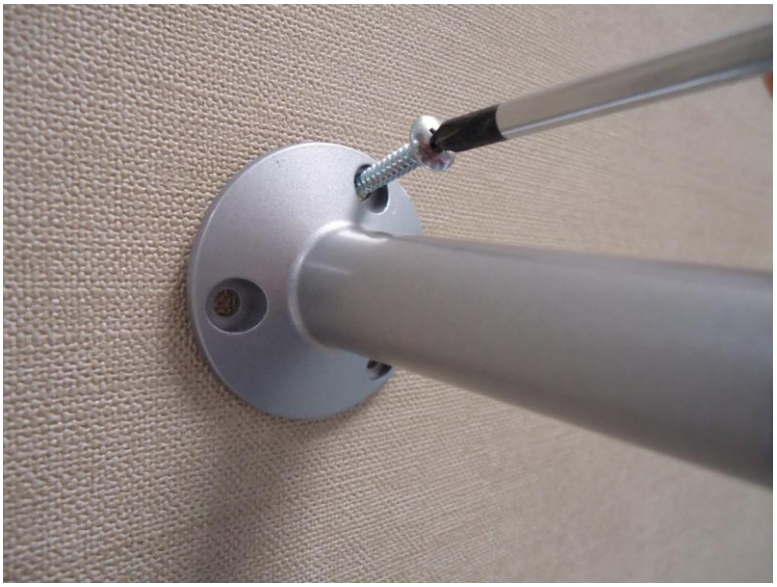


3. Using a Phillips screwdriver, attach the three supplied screws to secure the bracket to the wall or ceiling.



When mounting on a wooden wall or ceiling

1. Place the bracket on the desired mounting location on the wall or ceiling.
2. Using a Phillips screwdriver, screw the supplied screws through the screw holes of the bracket and the wall or ceiling.



2. Install the Camera

1. Screw the camera to the bracket.

2. Position the camera to face the target view area.

3. Tighten the knob to fix the camera position.

Step 2: Connect the Camera

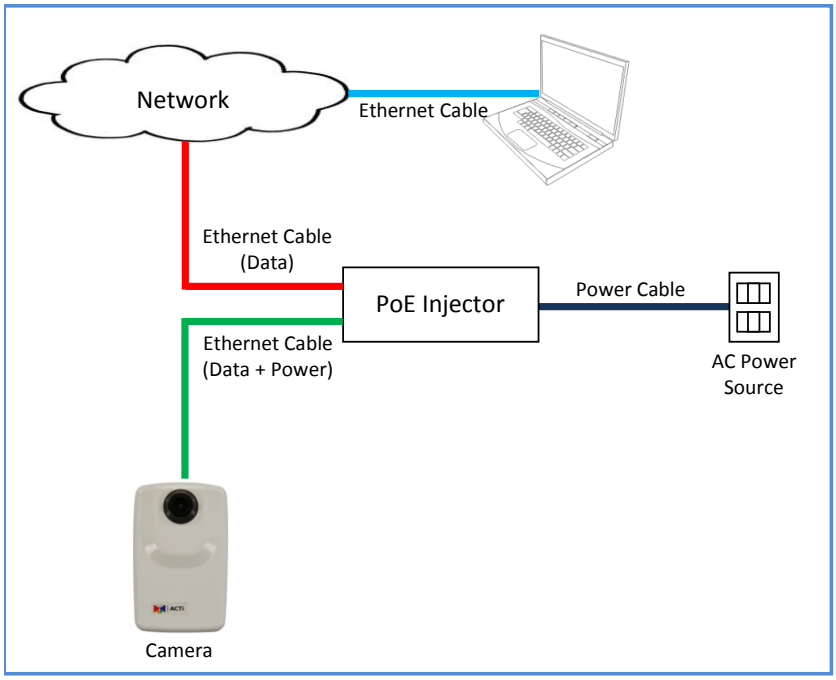
To connect the camera, you need to prepare the following:

- Power over Ethernet (PoE) supported switch (to connect multiple cameras) or PoE injector (to connect a single camera)
- Ethernet cables

Connecting a Single Camera

To connect a single camera, use a PoE injector to supply both data and power to the camera using one Ethernet cable. Follow the procedures below:

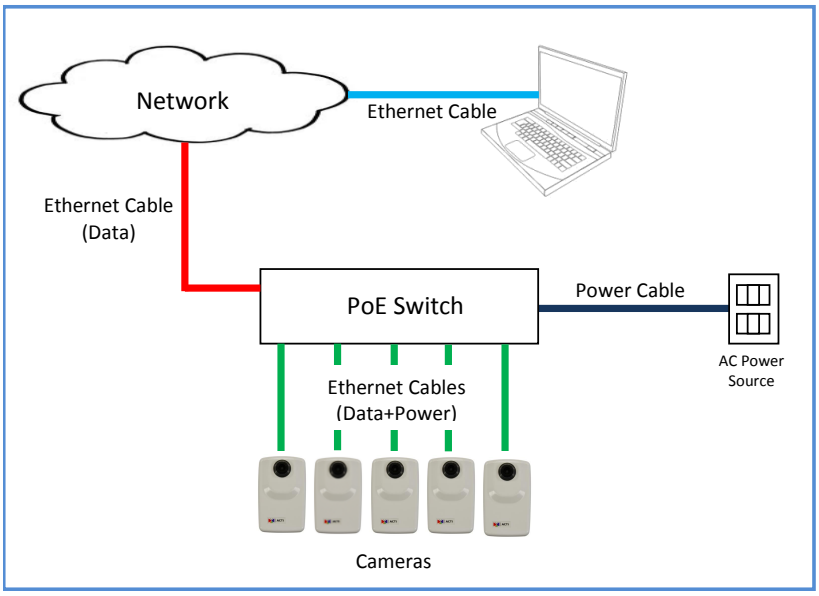
1. Connect the camera to the PoE injector using an Ethernet cable.
2. Connect the PoE switch to the network and an AC power source.
3. Connect a PC to the same network.



Connecting Multiple Cameras

To connect multiple cameras, use a PoE switch.

1) Connect the camera(s) to the PoE switch using Ethernet cables.
2) Connect the PoE switch to a network and an AC power source.
3) Connect a PC to the same network.



Step 3: Access the Camera and Adjust the Focus

After installing the camera, access the camera Live View display (see Accessing Camera on page 17) and move the lens knob to adjust the camera focus.

Accessing Camera

Configure the IP Addresses

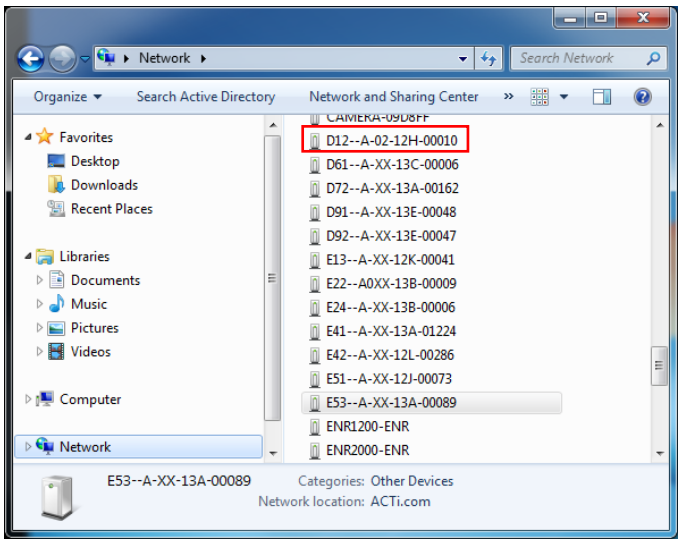
In order to be able to communicate with the camera from your PC, both the camera and the PC have to be within the same network segment. In most cases, it means that they both should have very similar IP addresses, where only the last number of the IP address is different from each other. There are 2 different approaches to IP Address management in Local Area Networks – by DHCP Server or Manually.

Using DHCP Server to Assign IP Addresses

If you have connected the computer and the camera into the network that has a DHCP server running, then you do not need to configure the IP addresses at all – both the camera and the PC would request a unique IP address from DHCP server automatically. In such case, the camera will immediately be ready for the access from the PC. The user, however, might not know the IP address of the camera yet. It is necessary to know the IP address of the camera in other to be able to access it by using a Web browser.

The quickest way to discover the cameras in the network is to use the simplest network search, built in the Windows system – just by pressing the “Network” icon, all the cameras of the local area network will be discovered by Windows thanks to the UPnP function support of our cameras.

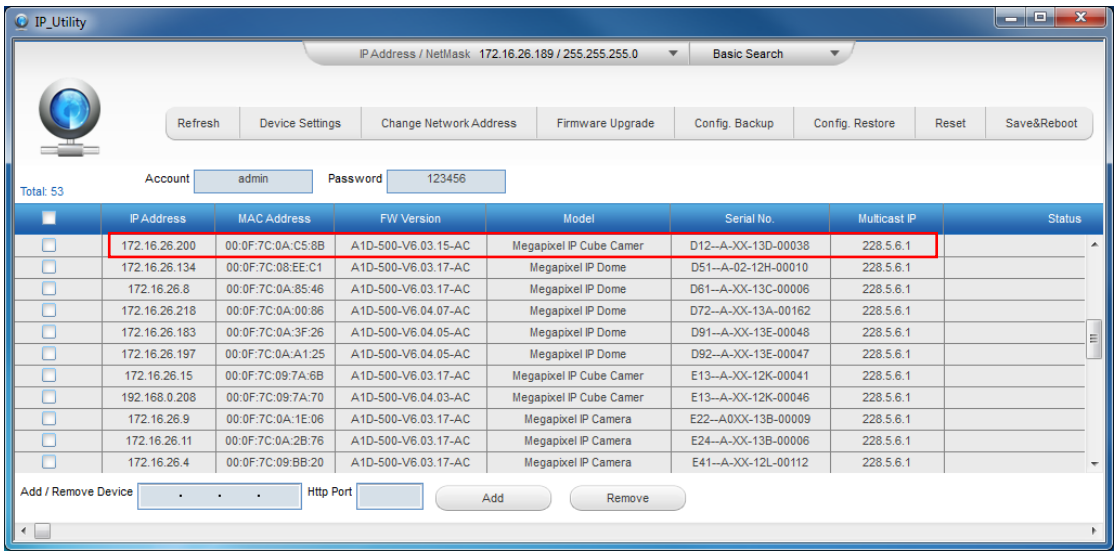
In the example below, we successfully found the camera that we had just connected to the network.



By double-clicking with the left mouse on the camera model, it is possible to automatically launch the default browser of the PC with the IP address of the target camera filled in the address bar of the browser already.

If you work with our cameras regularly, then **there is even a better way to discover the cameras in the network** – by using **IP Utility**. The IP Utility is a light software tool that can not only discover the cameras, but also list lots of valuable information, such as IP and MAC addresses, serial numbers, firmware versions, etc, and allows quick configuration of multiple devices at the same time.

With just one click, you can launch the IP Utility and there will be an instant report as follows:


IP_Utility
IP Address / NetMask 172.16.26.189 / 255.255.255.0
Basic Search
Refresh
Device Settings
Change Network Address
Firmware Upgrade
Config. Backup
Config. Restore
Reset
Save&Reboot
Account admin
Password 123456
Total: 53
IP Address | MAC Address | FW Version | Model | Serial No. | Multicast IP | Status
172.16.26.200 | 00:0F:7C:0A:C5:8B | A1D-500-V6.03.15-AC | Megapixel IP Cube Camer | D12--A-XX-13D-00038 | 228.5.6.1
172.16.26.134 | 00:0F:7C:08:EE:C1 | A1D-500-V6.03.17-AC | Megapixel IP Dome | D51--A-02-12H-00010 | 228.5.6.1
172.16.26.8 | 00:0F:7C:0A:85:46 | A1D-500-V6.03.17-AC | Megapixel IP Dome | D61--A-XX-13C-00006 | 228.5.6.1
172.16.26.218 | 00:0F:7C:0A:00:86 | A1D-500-V6.04.07-AC | Megapixel IP Dome | D72--A-XX-13A-00162 | 228.5.6.1
172.16.26.183 | 00:0F:7C:0A:3F:26 | A1D-500-V6.04.05-AC | Megapixel IP Dome | D91--A-XX-13E-00048 | 228.5.6.1
172.16.26.197 | 00:0F:7C:0A:A1:25 | A1D-500-V6.04.05-AC | Megapixel IP Dome | D92--A-XX-13E-00047 | 228.5.6.1
172.16.26.15 | 00:0F:7C:09:7A:6B | A1D-500-V6.03.17-AC | Megapixel IP Cube Camer | E13--A-XX-12K-00041 | 228.5.6.1
192.168.0.208 | 00:0F:7C:09:7A:70 | A1D-500-V6.04.03-AC | Megapixel IP Cube Camer | E13--A-XX-12K-00046 | 228.5.6.1
172.16.26.9 | 00:0F:7C:0A:1E:06 | A1D-500-V6.03.17-AC | Megapixel IP Camera | E22--A0XX-13B-00009 | 228.5.6.1
172.16.26.11 | 00:0F:7C:0A:2B:76 | A1D-500-V6.03.17-AC | Megapixel IP Camera | E24--A-XX-13B-00006 | 228.5.6.1
172.16.26.4 | 00:0F:7C:09:BB:20 | A1D-500-V6.03.17-AC | Megapixel IP Camera | E41--A-XX-12L-00112 | 228.5.6.1
Add / Remove Device
Http Port
Add
Remove

You can quickly see the camera model in the list. Click on the IP address to automatically launch the default browser of the PC with the IP address of the target camera filled in the address bar of the browser already.

Using the Default Camera IP Address

If there is no DHCP server in the given network, the user may have to assign the IP addresses to both PC and camera manually to make sure they are in the same network segment.

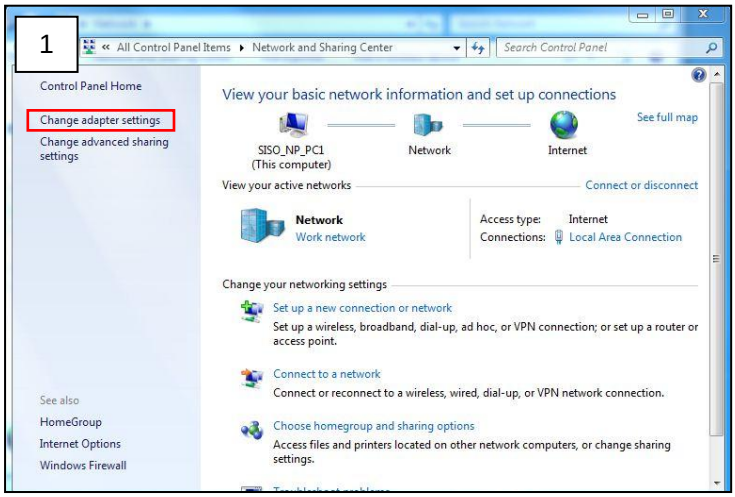
When the camera is plugged into network and it does not detect any DHCP services, it will automatically assign itself a default IP:

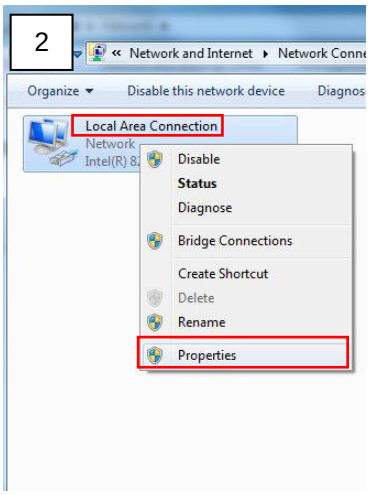
192.168.0.100

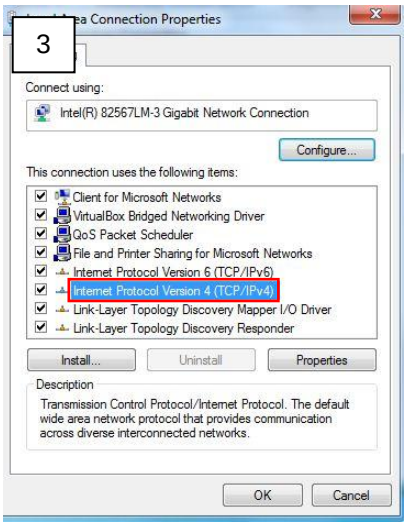
Whereas the default port number would be **80**. In order to access that camera, the IP address of the PC has to be configured to match the network segment of the camera.

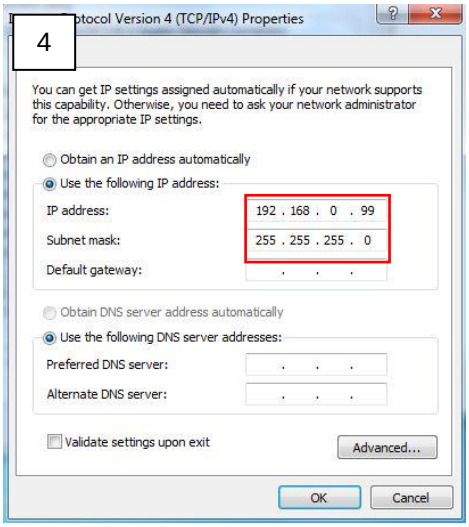
Manually adjust the IP address of the PC:

In the following example, based on Windows 7, we will configure the IP address to **192.168.0.99** and set Subnet Mask to **255.255.255.0** by using the steps below:


1
All Control Panel Items ▸ Network and Sharing Center
Search Control Panel
Control Panel Home
Change adapter settings
Change advanced sharing settings
View your basic network information and set up connections
See full map
SISO_NP_PC1 (This computer)
Network
Internet
View your active networks
Connect or disconnect
Network
Work network
Access type: Internet
Connections: Local Area Connection
Change your networking settings
Set up a new connection or network
Set up a wireless, broadband, dial-up, ad hoc, or VPN connection; or set up a router or access point.
Connect to a network
Connect or reconnect to a wireless, wired, dial-up, or VPN network connection.
Choose homegroup and sharing options
Access files and printers located on other network computers, or change sharing settings.
See also
HomeGroup
Internet Options
Windows Firewall



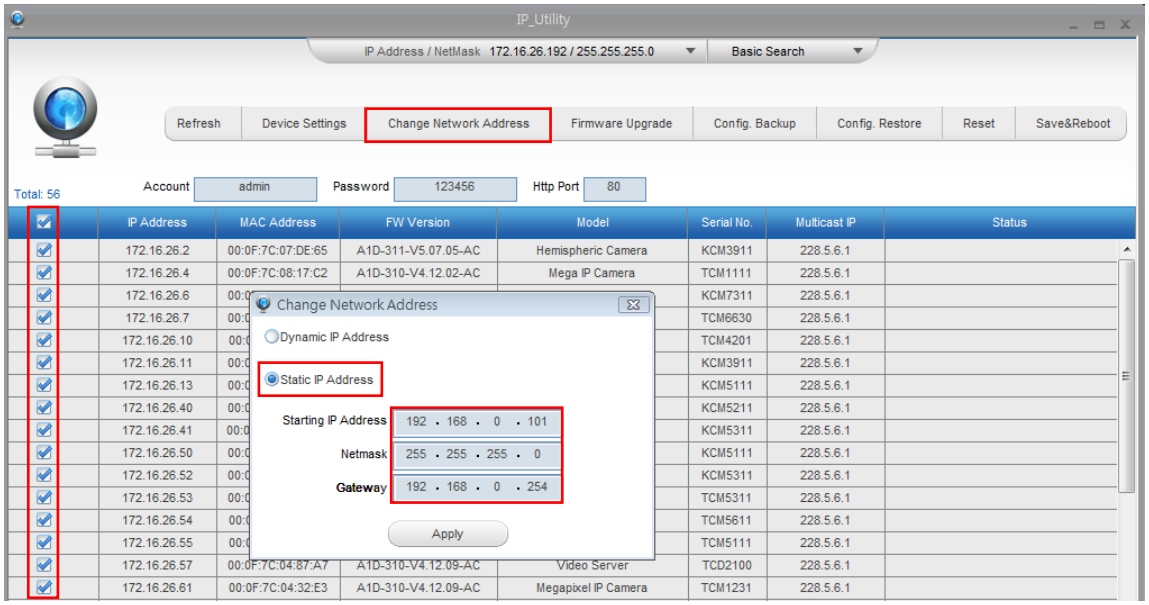



4
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 0 . 99
Subnet mask: 255 . 255 . 255 . 0
Default gateway:
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel

Manually

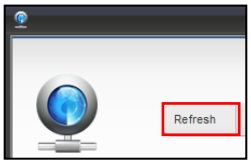
adjust the IP addresses of multiple cameras:

If there are more than 1 camera to be used in the same local area network and there is no DHCP server to assign unique IP addresses to each of them, all of the cameras would then have the initial IP address of **192.168.0.100**, which is not a proper situation for network devices – all the IP addresses have to be different from each other. The easiest way to assign cameras the IP addresses is by using **IP Utility**:



With the procedure shown above, all the cameras will have unique IP addresses, starting from 192.168.0.101. In case there are 20 cameras selected, the last one of the cameras would have the IP 192.168.0.120.

Later, by pressing the “Refresh” button of the IP Utility, you will be able to see the list of cameras with their new IP addresses.



Please note that it is also possible to change the IP addresses manually by using the Web browser. In such case, please plug in only one camera at a time, and change its IP address by using the Web browser before plugging in the next one. This way, the Web browser will not be confused about two devices having the same IP address at the same time.

Access the Camera

Now that the camera and the PC are both having their unique IP addresses and are under the same network segment, it is possible to use the Web browser of the PC to access the camera.

You can use **any of the browsers** to access the camera, however, the full functionality is provided only for **Microsoft Internet Explorer**.

The browser functionality comparison:

Functionality	Internet Explorer	Other browsers
Live Video	Yes	Yes*
Live Video Area Resizable	Yes	No
PTZ Control	Yes	Yes
Capture the snapshot	Yes	Yes
Video overlay based configuration (Motion Detection regions, Privacy Mask regions)	Yes	No
All the other configurations	Yes	Yes

* The basic **VLC media player** has to be installed in PC first before using any non-Internet Explorer browsers to be able to get live video feed from the camera with those browsers. It is a free and open source cross-platform multimedia player.

Disclaimer Notice: The camera manufacturer does not guarantee the compatibility of its cameras with VLC player – since it is a third party software, the third party has the right to modify their utility any time which might affect the compatibility. In such cases, please use Internet Explorer browser instead.

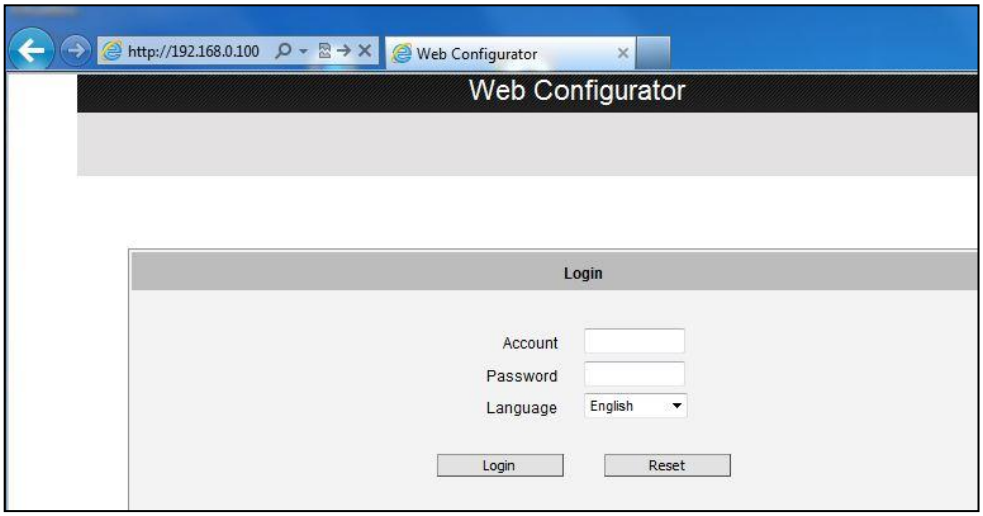
When using Internet Explorer browser, the ActiveX control for video stream management will be downloaded from the camera directly – the user just has to accept the use of such control when prompted so. No other third party utilities are required to be installed in such case.

The following examples in this manual are based on Internet Explorer browser in order to cover all functions of the camera.

Assuming that the camera's IP address is **192.168.0.100**, you can access it by opening the Web browser and typing the following address into Web browser's address bar:

http://192.168.0.100

Upon successful connection to the camera, the user interface called **Web Configurator** would appear together with the login page. The HTTP port number was not added behind the IP address since the default HTTP port of the camera is 80, which can be omitted from the address for convenience.



Before logging in, you need to know the factory default Account and Password of the camera.

Account: **Admin**

Password: **123456**

For further operations, please refer to the **Firmware User Manual**.